based on said disturbance, and calculating the concentration of said predetermined substance in said blood based upon said effective dialysance.

14. The method of claim 13 including determining the flow rate of said dialysate, and wherein said calculating of said concentration of said predetermined substance in said blood comprises multiplying said measured concentration of said predetermined substance in said dialysate by said flow rate of said dialysate to provide a product and dividing said product by said effective dialysance.

15. The method of claim 14 wherein said measuring of said concentration of said predetermined substance in said dialysate is utilized to obtain a curve of said concentration over time, and including calculating the initial mass of said predetermined substance in said blood, calculating the initial concentration of said predetermined substance in said blood, and calculating the distribution volume of said predetermined substance in said body by dividing said initial mass by said initial concentration of said predetermined substance in said blood.

16. The method of claim 13 wherein said introducing of said disturbance in said dialyser comprises changing the concentration of a second predetermined substance in said dialysis fluid, and including measuring the change in the concentration of said second predetermined substance in said dialysate.

17. The method of claim 13 including determining the flow rate of said dialysate, and wherein said introducing of said disturbance in said dialyser comprises adding a predetermined amount of a second predetermined substance into said dialysis fluid, measuring the concentration of said predetermined substance in said dialysate, determining the amount of said second predetermined substance in said dialysate by multiplying

said concentration of said second predetermined substance in said dialysate with said flow rate of said dialysate to obtain a product and integrating said product over time, and wherein said calculating of said effective dialysance comprises multiplying said flow rate of said dialysate with a fraction comprising 1 minus said amount of said second predetermined substance in said dialysate over said amount of said second predetermined substance in said dialysis fluid.

18. The method of claim 16 wherein said second predetermined substance comprises a substance selected from the group consisting of sodium ions, a conductivity altering substance, and urea.

19. The method of claim 17 wherein said second predetermined substance comprises urea.

20. Apparatus for calculating the concentration of a predetermined substance in the blood of a mammal comprising a dialyser including a semipermeable membrane, means for passing said blood over one side of said semipermeable membrane in said dialyser, means for passing a dialysis fluid over the other side of said semipermeable membrane in said dialyser to produce a dialysate, concentration measuring means for measuring the concentration of said predetermined substance in said dialysate, disturbance means for introducing a disturbance in said dialyser, calculating means for calculating the effective dialysance of said dialyser based on said disturbance, and concentration calculating means for calculating the concentration of said predetermined substance in said blood based on said effective dialysance.

21. The apparatus of claim 20 including flow rate means for obtaining the flow rate of said dialysate, said concentration calculating means comprising means for multiplying said concentration of said predetermined substance in said dialysate by said flow rate of said dialysate to provide a

product, and dividing said product by said effective dialysance of said dialyser.

22. The apparatus of claim 21 wherein said concentration measuring means comprises means for measuring said concentration of said predetermined substance in said dialysate to obtain a concentration curve, and including mass calculating means for calculating the initial mass of said predetermined substance in said mammal, initial concentration calculating means for measuring the initial concentration of said predetermined substance in said mammal, and distribution volume calculating means for measuring the initial distribution volume of said predetermined substance in said mammal.

23. The apparatus of claim 20 wherein said disturbance means comprises means for changing the concentration of at least a predetermined substance in said dialysis fluid, and including measuring means for measuring the change in the concentration of said second predetermined substance in said dialysate.

24. The apparatus of claim 20 including flow rate means for measuring the flow rate of said dialysate, and wherein said disturbance means comprises means for introducing a predetermined amount of a second predetermined substance into said dialysis fluid, said concentration measuring means comprising means for measuring the concentration of said second predetermined substance in said dialysate, and including amount determining means for determining the amount of said second predetermined substance in said dialysate by multiplying said concentration of said second predetermined substance in said dialysate with said flow rate of said dialysate to provide a product and integrating said product over time, and wherein said calculating means comprises means for multiplying said flow rate of said dialysate by a fraction comprising 1 minus said amount of said second predetermined substance in said dialysate over the